

Notic of All wability

Application No.

09/879,793

Applicant(s)

LIM, YOUNG-WON

Examiner

Ly V. Hua

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 13 June 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

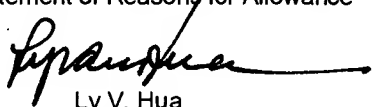
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachm nt(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 3/11/2002
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Ly V. Hua
Primary Examiner
Art Unit: 2135

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Reason for Allowance

1. Claims 1-6 are allowed
2. The following is an examiner's statement of reasons for allowance:
 - a. The following is an examiner's statement of reasons for allowance:
 - i. the prior art of record fail to teach or suggest a key scheduler for an apparatus using DES encryption algorithm as claimed. Particularly the prior art of record fail to teach or suggest a key scheduler comprising the following elements in combination:
 - (1) a first permutation choice unit for permuting a 56-bit block;
 - (2) a first register for storing left 28 bits among the 56-bit block from the first permutation choice unit in accordance with a clock signal;
 - (3) a second register for storing right 28 bits among the 56-bit block from the first permutation choice unit in accordance with the clock signal;
 - (4) a first and a second shift units for shifting the 28-bit blocks stored in the first and the second registers to the left by a first predetermined number of bits and outputting shifted 28-bit blocks to the first and the second registers respectively;
 - (5) a second permutation choice unit for permuting the 28 bits stored in the first and the second registers, thereby generating a first sub-key;
 - (6) a third and a fourth shift units, each for shifting the 28 bits stored in the first and the second registers to left (for claims 1-3, to the right for claims 4-6) by a second predetermined number of bits; and
 - (7) a third permutation choice unit for permuting the 28 bits stored in the third and the fourth shifters, thereby generating a second sub-key.
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly V. Hua whose telephone number is ~~571-272-3853~~. The examiner can normally be reached on Monday to Friday from 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Kim, can be reached on ~~571-272-3858~~. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.
6. The applicant is hereby notified that:
 - a. The new phone number for TC 2100 receptionist is (571) 272-2100.



Ly V. Hua
Primary Examiner
Art Unit 2135